

means that the fibrous web can easily be removed from the dryer surface. Other references of interest include U.S. Patents 5,232,553 and 4,684,439. All the prior art patents are of interest but do not disclose polymers having at least one primary or secondary amine group in the backbone such as chitosan, polyvinylamine, polyvinyl alcohol-vinyl amine, polyaminoamide and etc., in combination with the zirconium crosslinking compounds having a valence of plus four such as ammonium zirconium carbonate, zirconium acetylacetone, zirconium acetate, zirconium carbonate, zirconium sulfate, zirconium phosphate, potassium zirconium carbonate, zirconium sodium phosphate and sodium zirconium tartarate. In our process, the creping adhesive is formed on the Yankee surface wherein the carbon containing moiety of the zirconium crosslinking agent is exchanged with the amine moiety of the copolymer. The vinylamide copolymer also crosslinks with the cellulose moiety of the absorbent paper. These patents also do not relate to creping adhesives or the creping of tissue and towel from a Yankee dryer. U.S. Patents 5,374,334 and 5,382,323 relate to adhesives reacted with the crosslinking agent prior to establishing contact with the Yankee surface. In our novel process the crosslinking agents are charged to the Yankee surface at the same time as the adhesive polymer wherein the adhesive of this invention is formed on the Yankee surface.

Delete the paragraph beginning on line 9 of page 12, and replace it with the following amended paragraph:

The various components of the adhesive formulation may all be dissolved, dispersed, suspended, or emulsified in a liquid carrying fluid. It should be noted that the crosslinking agents in our process are sprayed directly on the Yankee surface with the

CJ
LAW OFFICES
FINNEGAN, HENDERSON,
FARABOW, GARRETT,
& DUNNER, L.L.P.
1300 I STREET, N.W.
WASHINGTON, DC 20005
202-408-4000

CJ

base polymer. This liquid will generally be a non-toxic solvent such as water. The liquid component is usually present in an amount of 90 to 99% by weight of the total weight of the creping adhesive. The pH of the adhesive when it is applied to the desired surface in the papermaking operation will normally be about 7.5 to 11. The solvent preferably consists essentially or completely of water. If other types of solvents are added, they are generally added in small amounts.

Delete the paragraph beginning on line 15 of page 17, and replace it with the following amended paragraph:

C3

Esthetics and tactile considerations are extremely important for tissue products as they often come into intimate contact with the most delicate parts of the body in use. Consequently, demand is quite high for products with improved tactile qualities, particularly softness. However, as tissue products are frequently used to avoid contact with that which the consumer would greatly prefer not to touch, softness alone is not sufficient; strength is also required. Merely providing a product with improved properties is not generally sufficient; the "on the shelf" appearance of the product must suggest both strength and softness while consumers must be able to sense improvements by handling the packaged product. Appearance is critical; bulk, weight, compressibility, firmness, texture and other qualities perceived as indicia of strength and softness are also required.

Delete the paragraph beginning on line 9 of page 19, and replace it with the following amended paragraph:

The following examples are illustrative of the present invention. It should be understood that the examples are not included to limit the invention and that various